

REMARKS

By this Amendment, claims 1, 3, 12, 22, 31, 33, 35-37, 40, 41, 44, 45, and 48-50 are amended to more specifically recite mutated residues and particular substitutions at a certain residue, and to maintain proper antecedent support for claim terms. Support for the amendments to the claims comes from the specification, as originally filed, at Table 1, pages 49-52, for example. Applicants note that the cited Table shows data relating to mutant enzymes according to the claims, which show both reduced DNA polymerization activity and reduced exonuclease activity. By this Amendment, new claim 52 is also added. Support for new claim 52 comes from original claim 1 and Table 1, for example. Accordingly, no new matter is added by this Amendment. Furthermore, addition of new claim 52 does not require any fees, as Applicants have previously paid for 9 independent claims and 52 claims total.

I. *Restriction Requirement*

The Office continues to withdraw claims 23, 24, 26, 30, 31, and 33-35 as directed to a non-elected invention. (Office Action at page 2.) Applicants note for the record that the non-elected claims are directed to methods of using the enzyme mixtures of the elected claims. As such, upon a finding of allowability of the elected claims, and in particular claim 1, the withdrawn claims should be re-joined and examined in this application.

II. *Rejection Under 35 U.S.C. § 112, first paragraph*

The Office rejects claims 1, 3, 10-12, 14, 20, 22, and 36-51 under 35 U.S.C. § 112, first paragraph, as failing to be supported by an adequate written description. The Office asserts that

“While those polymerases with ‘reduced 3'-5' exonuclease activity’ may be encompassed by the above [*i.e.*, the written description], clearly applicants [*sic*, applicants’] invention at the time of invention was not specifically directed to those which had reduced 3'-5' exonuclease activity”.” (Office Action at page 3.) The Office concludes that claims reciting enzymes having reduced exonuclease activity include new matter. Applicants traverse this rejection.

As stated by Applicants in the previous paper, Table 1 provides support for the claimed enzymes having both reduced polymerization activity and reduced exonuclease activity. In that Table, nineteen specific mutant enzymes are disclosed that have the claimed characteristic of reduced 3'-5' exonuclease activity and reduced 5'-3' DNA polymerization activity as compared to the wild type Pfu DNA polymerase. At the time of filing of this application, Applicants were surely aware of their own data and that their invention encompassed such mutants. The specification clearly and unambiguously discloses these mutants and their characteristics, and one of skill in the art would recognize that the specification provides full written description support for claims directed to these mutants.

In making the rejection, the Office sums up Applicants’ invention into what it believes to be the gist of the invention, and implies that because the specification does not focus on the characteristics at issue, the claims contain new matter. Applicants submit that USPTO examination guidelines do not permit the Office to ignore specific teachings that support claim language, and instead substitute a statement of the gist of the disclosure. Rather, MPEP § 2163 II.A.2. specifically states:

Prior to determining whether the disclosure satisfies the written description requirement for the claimed subject matter, the examiner

should review the claims and the entire specification, *including the specific embodiments, figures, and sequence listings*, to understand how applicant provides support for the various features of the claimed invention. (Emphasis added herein by Applicants.)

The Office has thus improperly set forth the rejection by ignoring specific embodiments disclosed by Applicants in the specification. Applicants submit that the specification, as filed, provides adequate written description of the currently claimed invention, both through specific disclosure of nineteen species of mutant enzymes that satisfy the claim language, and by specifically identifying an alternative embodiment directed to enzymes that do not have reduced exonuclease activity. (See, for example, the specification at page 20, lines 17-19.)

In view of the specific teachings of numerous mutants having the characteristics recited in the present claims, and the specific disclosure of an alternative embodiment, Applicants submit that one of skill in the art would recognize that Applicants were in possession of the currently claimed enzymes and enzyme mixtures. Accordingly, Applicants submit that the claims are fully supported by an adequate written description. Applicants thus request that the Office reconsider and withdraw the rejection of claims 1, 3, 10-12, 14, 20, 22, and 36-51 under 35 U.S.C. § 112, first paragraph, as failing to be supported by an adequate written description.

III. *Double Patenting*

The Office provisionally rejects claims 1, 3, 10-12, 14, 20, 22, and 36-51 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 82-92, 96, 98-102, 116-119, 121, 123-138, 155-158, and 163-170 of co-pending Application No. 10/227,110. (Office Action at page 5.) Applicants acknowledge this

provisional rejection and request that the Office hold the rejection in abeyance until one or the other application is in condition for allowance. At that time, Applicants will take appropriate action.

IV. *Conclusion*

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application, and the timely allowance of the pending claims. Please grant any extensions of time required to enter this paper and charge any required fees to Deposit Account No. 19-0089.

Respectfully submitted,
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